IN THE CLAIMS:

1. (Twice Amended) A method comprising:

infiltrating a solution containing a plurality of carbon aerogel precursors wherein the ratio of hydroxylated benzene compound to catalyst is less than 1000 into a pre-formed polymer foam, or fiber-mat;

allowing said solution to gel such that it encapsulates at least part of the pre-formed polymer foam or fiber-mat to form a gelled composite;

drying the gelled composite to form a dried composite~~; and~~, such that the surface tensile forces are reduced; and

pyrolyzing the dried composite wherein the pre-formed polymer foam or fiber-mat and the carbon aerogel decompose simultaneously such that they remain essentially in contact at their interfaces to form a monolithic glassy carbon material with a density less than 300 g/cc.

2-3. (Cancel)

4. (Previously Amended) The method of Claim 1, wherein allowing said solution containing a plurality of carbon aerogel precursors to gel is carried out at a temperature of 80°C and a time period of 110 minutes.

5. (Cancel)

6. (Cancel)

7. (Cancel)

8. (Previously Amended) The method of Claim 1, wherein pyrolyzing the dried composite is carried out in a furnace in the temperature range of 700 to 1100°C and for a time period of 8 to 12 hours.

9-17. (Cancel)

18. (New) The method of Claim 1, wherein said drying is carried out by supercritical carbon dioxide exchange.

19. Cancel